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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/005,424	12/03/2001	Jeremy Chervinko	MOSAIC-107	8541

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EXAMINER

DOVE, TRACY MAE

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 05/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/005,424

Applicant(s)

CHERVINKO ET AL.

Examiner

Tracy Dove

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/3/01.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on 12/03/01 has been considered by the examiner.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 11 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 5 and 11 of copending Application No. 10/136,772. Although the conflicting claims are not identical, they are not patentably distinct from each other because the weight ratio of graphite to resin of both applications overlap and the particle size of the graphite material of both applications overlap.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Claim Objections***

Claim 3 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the

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claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Dependent claim 3 does not further limit independent claim 1 (see last two lines of claim 1).

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 9 and 10 recite a ratio of graphite to resin contained in the graphite composition of the bipolar separator plate. However, the claim does not recite the type of ratio (molar, volume or weight). Examiner suggests claims 9 and 10 be amended to recite "weight ratio".

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-6, 8-16 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Saito et al., EP 0784352 A1.

Saito teaches a separator for a solid polymer electrolyte fuel cell that is sandwiched between gas diffusion electrodes (bipolar separator) of the fuel cell. The separator may have reactant gas slots on one or both surfaces of the separator. The separator is formed from a carbonaceous composite material comprising graphite particles having a mean particle diameter of 5-12  $\mu\text{m}$  and a thermoplastic or thermosetting resin. The separator is produced by mixing the thermosetting resin and graphite particles and then pressure-molding the obtained mixture at ordinary temperature (ambient temperature) to 400°C. The resulting mold material is fired in a nonoxidizing atmosphere at 700-3000°C to form a carbonaceous composite material (bipolar separator) (abstract). The ratio of graphite to resin can be determined depending upon the properties required for the intended separator. The amount ratio may be 10-1000 parts by weight of resin per 100 parts by weight of graphite powder (4:18-22). The graphite/resin mixture is pressurized (in a mold) to allow the resin component to penetrate into between the particles of the graphite powder. The molding can be conducted by a known method such as pressure molding, hydrostatic pressure molding, press heating or roll pressing. The molding temperature can be appropriately selected depending upon the kind of resin used, but is ordinarily room temperature to 400°C (4:23-31). Thus the molding may be performed with (heat molding) or without added heat (pressure molding). After the molding, a heat treatment may be applied to chemically stabilize the molded material (4:31-32). The Examples teach a mold pressure of 100  $\text{kg/cm}^2$  (1422 psi). Examples 1-1, 2-1, 3-1 and 4-1 teach 90 wt% of graphite is contained in the separator plate.

Thus the claims are anticipated.

\*

Claims 1-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Yoshida et al., US 6,660,420.

Yoshida teaches a separator for a fuel cell and a method of producing the separator. The separator comprises 60-90 wt% (preferably 70-87 wt%) of graphite powder having an average diameter in a range of 15-125  $\mu\text{m}$  (preferably 40-100  $\mu\text{m}$ ) and 10-40 wt% (preferably 13-30 wt%) of a thermosetting resin. The compound is previously cold-molded (abstract). Note column 4, lines 5-21. The fuel cell is a solid polymer electrolyte fuel cell having plural units (5:38-6:20). The separator is formed by mixing 60-90 wt% of graphite with 10-40 wt% of thermosetting resin to form a compound. While applying a pressure of 2-10 MPa (290-1450 psi) to the compound, the compound is previously cold-molded into a desired shape. The preliminary molded member is then placed in a mold and heated at 150-170°C (curing temperature) at a pressure of 10-100 MPa to produce the separator (6:39-56 and Figure 4A). Figure 4B shows a bipolar separator 4 formed in a mold 14.

Thus the claims are anticipated.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracy Dove whose telephone number is 571-272-1285. The examiner can normally be reached on Monday-Thursday (9:00-7:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Tracy Dove". The signature is fluid and cursive, with the first name "Tracy" and last name "Dove" clearly distinguishable.

Tracy Dove  
Patent Examiner  
Technology Center 1700  
Art Unit 1745

April 28, 2004